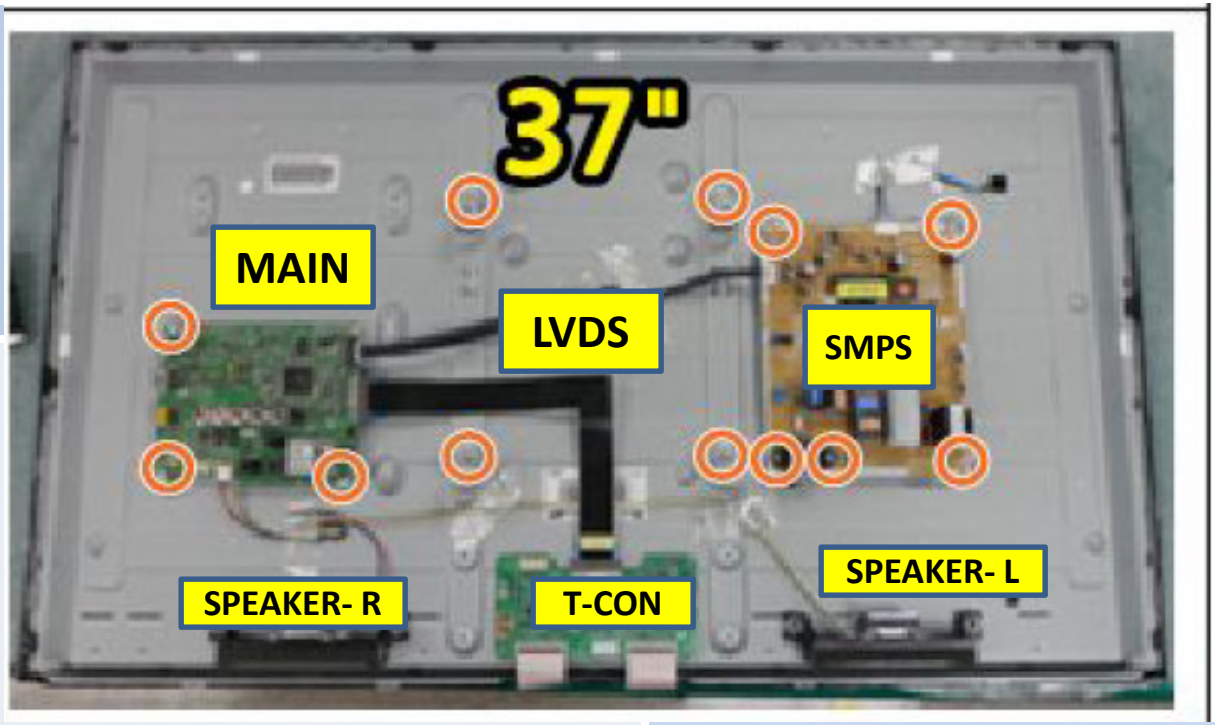
UN37EH5000FXZA Fast Track Troubleshooting Manual – Rev 6/25/12



-FIRMWARE:
-3/20/2012
-2012 LED TV X9N Full HD Firmware (T-MX9FAUSC)

Always check for latest updates

Quick Parts List:
- Verify before ordering -

Ver.	Part No.	Description
CH01	BN07-01194A	LCD-Panel
CH01	BN94-05764V	Main Board
CH01	BN44-00496A	SMPS
CH01	BN96-23773A	T-Con
CH01	BN96-22413L	Jog Sw. & IR
CH01	AA59-00600A	Rem. Cont.

HELP : 888-751-4086; 866-894-0637 FE)
GSPN
http://gspn3.samsungcsportal.com
PLUS ONE
http://my.plus1solutions.net/clientPortals/samsung

HOT TIPS

-New 2012 Model… always check for latest bulletins and firmware updates.

- Important Bulletins for rear cover removal and front cover replacement to prevent damage.

SERVICE BULLETINS

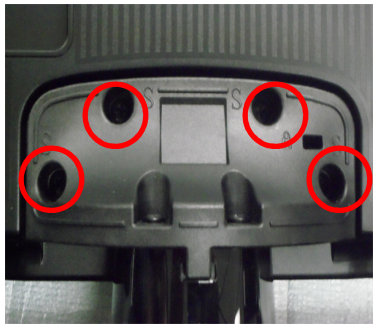
ASC20120319002:
SUBJECT: Rear Cover replacement procedure for 2012 Full LED (EH series) TV models

ASC20120319001
SUBJECT: Front Cover replacement procedure

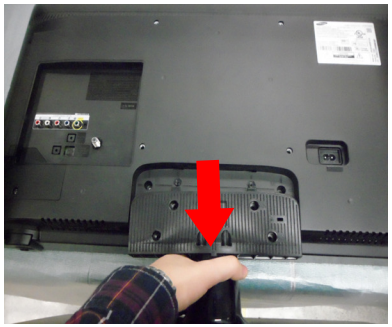
Disassembly Caution for LED-H TV Servicing Prep.

1. Place monitor face down on cushioned table.

2. Remove 4 screws from the stand.



3. Remove stand.



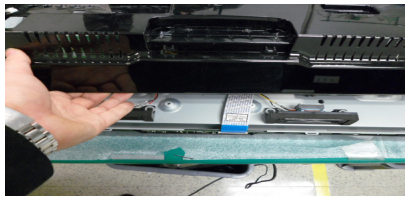
4. Remove the 1 screw of cover jack.

5. Remove cover jack.

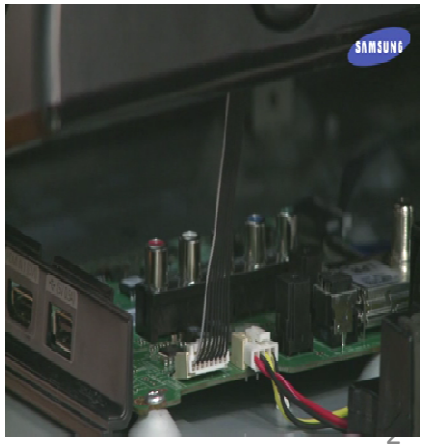
6. Disconnect the function Assy. Cable

7. Remove the screws of rear-cover.

8. Remove the rear cover

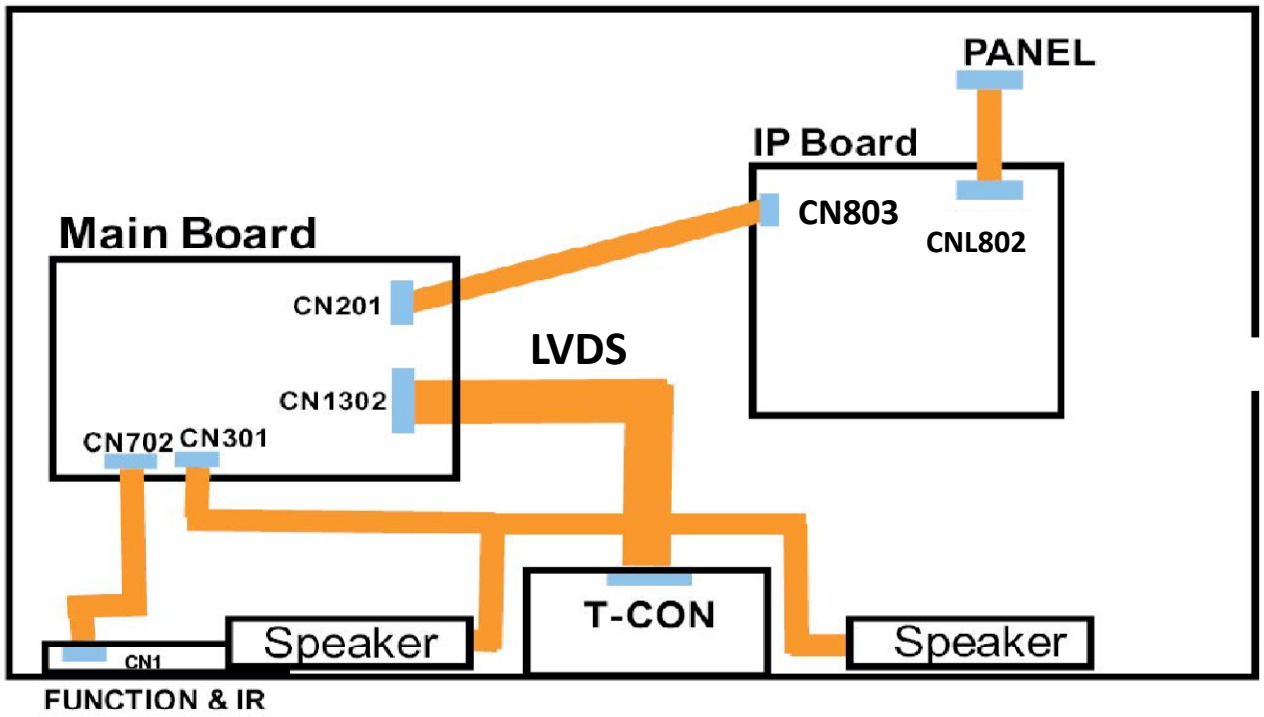


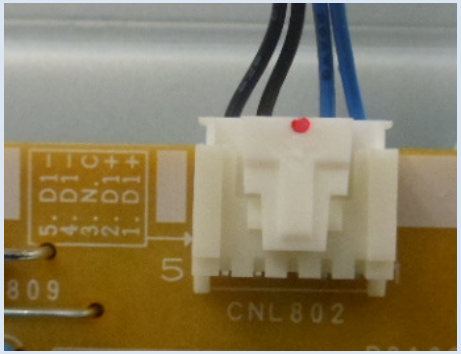
Not removing the connector can cause Damage to the PC/Connector as shown.



UN40EH5000FXZA

Fast Track Troubleshooting Manual





CNL802 IP SMPS to LEDs

1	D1 -
2	D1 -
3	N/C
4	D1 +
5	D1 +

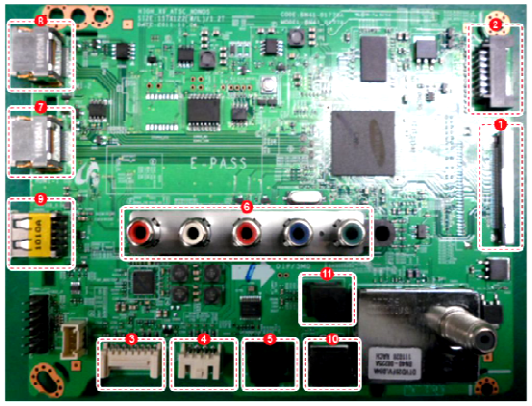
CN803 IP SMPS to /fro MAIN BOARD

1	B13V	8	GND
2	PWM_DIMM	9	GND
3	B13V	10	GND
4	B13V	11	B5V
5	Vamp 13V	12	A5V
6	BLU On/Off	13	B5V
7	Vamp 13V	14	Power On/Off

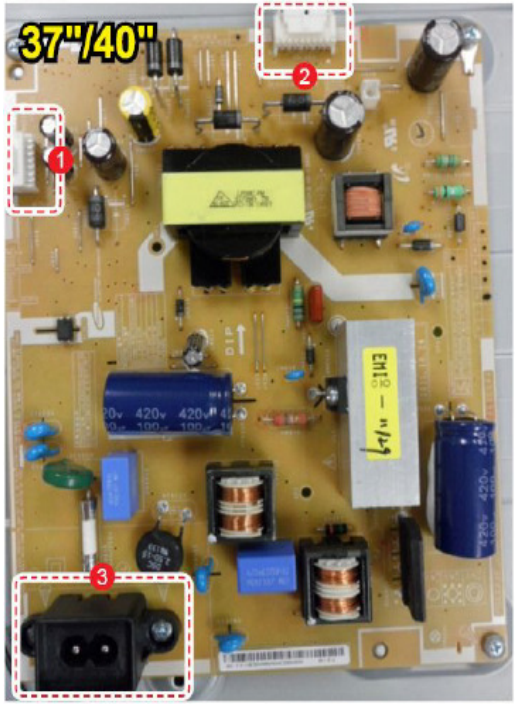
UN**EH TV Start Up Sequence

Sequence	Location	DC Voltage
1. 5V STBY to Main Board	CN803-12 **(A5V)**	**5V**
2. Power On/Off From Main Board	CN803-14 **(Power On/Off)**	**0V-3.5V**
3. Low Volts On to Main Board with **Booting Melody (X9 MStar)**	CN803-1,3,5,7 **(B13V)** CN803- 11,13 **(B5)**	**13V** **5V**
4. Back Light On/Off From Main Board	CN803-6) **BLU On/Off**	**0V – 4.9V 5 Sec Dly**
5. Back Light Dim Control from Main Board "0 to 20" Backlight	**CN803 - 2 (PWM_DIMM)** effective DC Voltage is **max** when backlight **max**	**0.5V – 4.0V (effective)** Dark to Bright
6. Dim Control Out from IP SMPS to LEDs **D1 –** is **max** voltage when backlight is **min**	**CNL802-1 & 2 (D1 -) C NL802-4 & 5 (D1+) D1 + stays constant DC voltage.**	**1.3V-32.8V 110.8V**

MAIN



SMPS

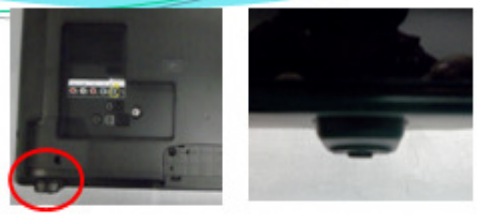


Function Control Troubleshooting

- ✓ **Standby A3.3V on Function Connector, Pin 3.**
- ✓ **All Pins should read 3.3V before commands.**
- ✓ **Press, at Key 1, Pin 6. 3.3V to 0.0V DC**
- ✓ **Left, Right, Up, Down at Key 2, Pin 7. Check specific voltages on chart.**

5 Directional Function Control

UNEH4000 Sample

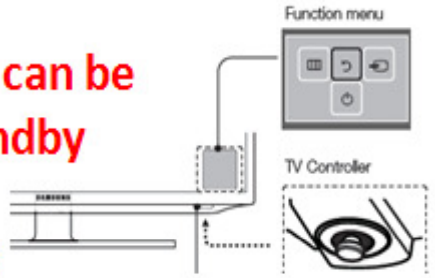


CN702 (FUNCTION)

1	IR	5	MSDA
2	GND	6	KEY1
3	A3.3V	7	KEY2
4	MSCL	8	GND

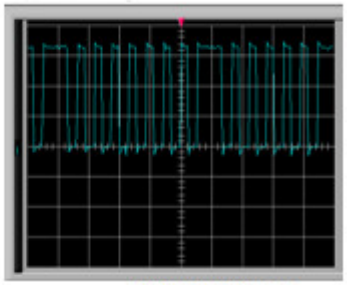
All Functions can be Tested in Standby Mode

(Standby Voltage)

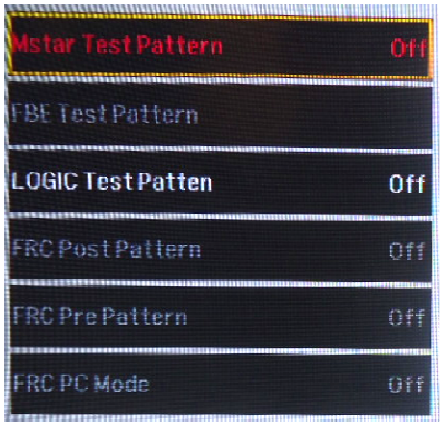


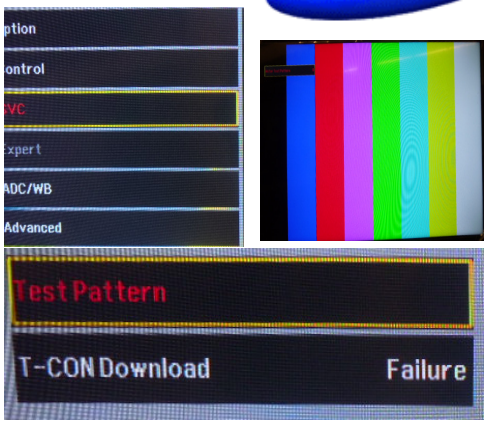
Command	PIN	Signal	DC Voltage/Notes
IR	1	IR	3.3V to 2.5V DC with any Remote Control Commands
Press	6	Key 1	3.3V to 0.0V DC
Left	7	Key 2	3.3V to 1.6V DC
Right	7	Key 2	3.3V to 2.5V DC
Up	7	Key 2	3.3V to 0.0V DC
Down	7	Key 2	3.3V to 0.8V DC

Actual IR Signal



4V P-P Data





TROUBLESHOOTING VIDEO PROBLEMS

1. Verify Video Operation (2012 Models)

a. **Boot Logo** models with X10 Micro-Processor & above during power on. Boot Sound only (X9 MPU) during power on.

b. **Customer Picture Test** in user menu

c. **"Display"** (If display and Boot Logo & Customer Picture Test are OK the source or cables are first suspected . Then check for a defective input on the Main Board.)

d. Substitute with known good Source (**external DVD or Signal Generator** to check inputs on Main Board)

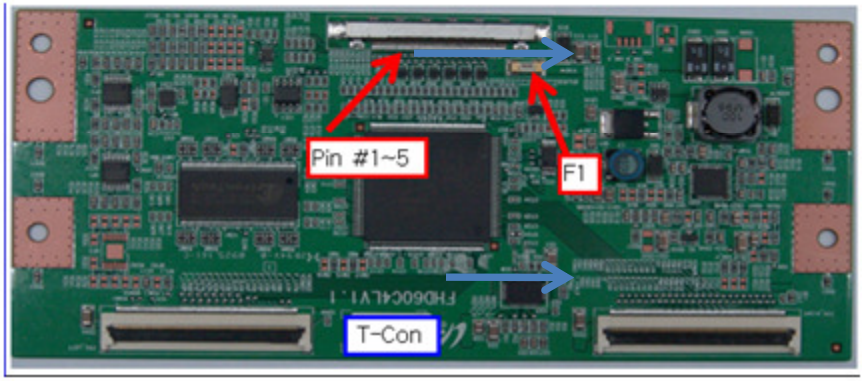
2. Using Test Patterns in Factory Mode

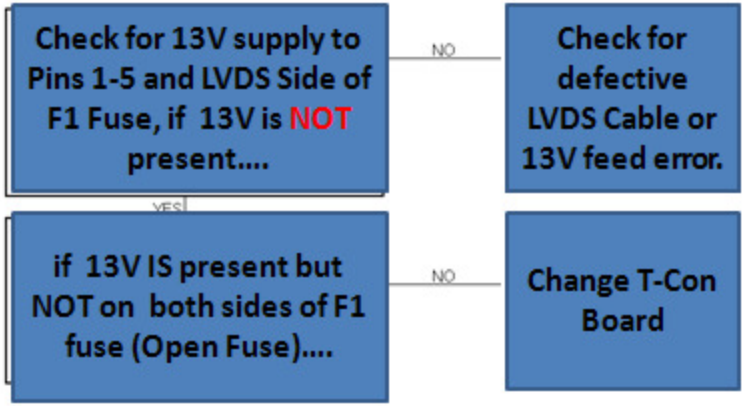
- ENTER FACTORY MODE –

1. Select an active source signal since Test Pattern may rely on signal source to appear or select TV Source mode.

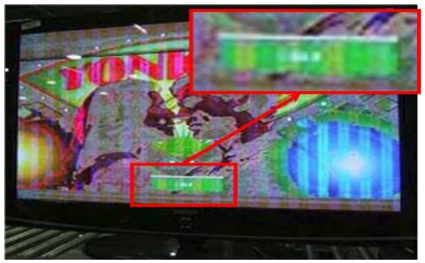
Customer Remote	Service Remote
2. Power Standby	2. Power On
3. Mute, 182, Power On	3. Info, Test
4. Select SVC	
5. Select Test Patterns	

T-Con Troubleshooting





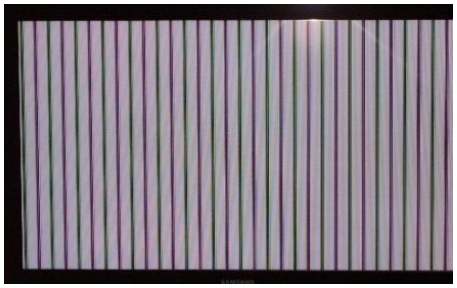
ON SCREEN FAILURE EXAMPLES:



If Picture & Display errors Defective Main Board, LVDS, or T-CON

Green lines or a green screen defective main board , LVDS , or T-CON.

Pixelization can be caused by the main board but is more commonly a source error



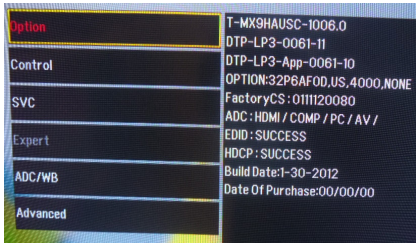
Vertical or Horizontal Lines :Defective Panel likely but also T-CON, LVDS, or Main Board. Use Test Patterns in Factory Service Mode to determine error)

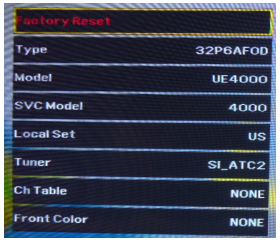
ALIGNMENTS:

1. Check/Set Option Bytes: in Factory Mode (Must be performed after replacing Main Board.)

Standard Remote
1. Power OFF the TV
2. Press MUTE, 1 8 2, then POWER

Factory remote
1. Power the TV ON
2. Press INFO then FACTORY





2. Check/Perform latest Firmware Upgrade for all repairs.

3. Perform reset in Service Mode if Main board is replaced.

SPECIAL NOTES:
Inform customer of reset of all Settings if Main Board is replaced.

Option Bytes settings for UN37EH5000

Model Code	Side Label	Option							
		Type	Basic Model	SVC Model	Tuner	Region	Ch Table	Front Color	Local Set
UN37EH5000FXZA	AS01	32A1AF6E	UES6500	UES6500	-	-	SAMEX	U-T-CL-M65	US

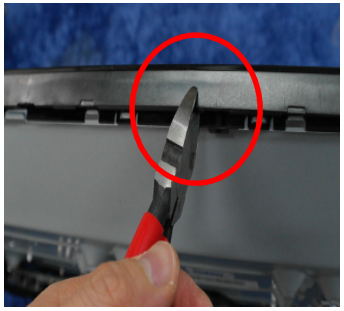
‘2012 LED Hybrid Disassembly cautions for Front Cover

(New panels come with the Front Cover)

To prevent the removal process from damaging the connections on the sides of the panel.

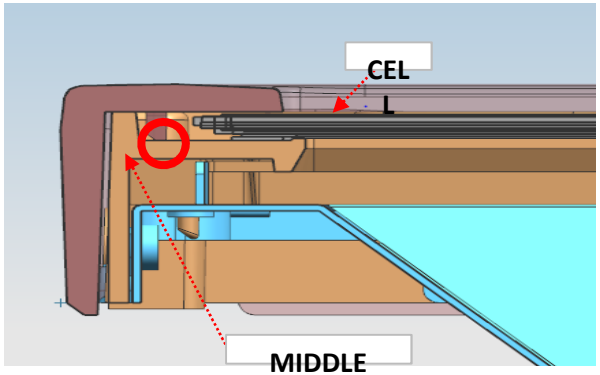
1. Place TV face up on cushioned table.

2. Cut and split the cover off at the top



3. Carefully remove the Front Cover and insulated paper in Front of T-Con area.

4. Attach the Front Cover bottom first to the panel



5. Secure the plastic latch on the left and right side of the Front Cover as shown

6. Visually inspect the spacing between the Cover and the panel for equal clearance

7. Combine to stick the Front Cover Rib into the middle mold.